

REMARKS/ARGUMENTS

Claims 17 and 18 have been amended into independent format by incorporating the subject matter recited in claim 12. Claim 12 has been canceled. Claim 17 has also been amended to recite a “porous carrier.” Claims 13-16 and 19-20 have been amended to be dependent upon claim 17. New claims 48-54 have been added and are dependent upon claim 18. Support for these amendments is found throughout the application. Claims 1-12 and 22-47 have been canceled in light of the maintained Restriction Requirement. Claims 13-21 and 48-54 are pending.

The Currently Claimed Invention

The currently claimed invention comprises a method for attracting arthropods consisting of combining a volatile acid precursor and a carbon dioxide precursor with water to produce carbon dioxide, water vapor, and a volatilized acid, said volatilized acid, carbon dioxide, and water vapor thereby attracting arthropods, wherein the volatile acid precursor is impregnated in a porous carrier (claim 17). The volatile acid precursor and the carbon dioxide precursor can be contained in a gas permeable sachet (claim 18).

Rejections under 35 U.S.C. §102

Claims 12-14, 16 and 19 stand rejected under 35 U.S.C. §102(b) as being anticipated by JAPIO abstract 1984-098008 (hereinafter “JP008”). Claims 12-13, 16 and 20-21 stand rejected under 35 U.S.C. §102(b) as being anticipated by ZA 8505940 (hereinafter “ZA940”). Applicants respectfully traverse these rejections.

Claims 17 and 18 do not stand as being anticipated. Accordingly, claims 17 and 18 have been rewritten into independent format by including the subject matter recited in claim 12. Claims 13-16 and 19-20 have been amended to be dependent upon independent claim 17 (as currently amended). Similarly, claims 48-54 are dependent upon independent claim 18 (as currently amended). Consequently, neither JP008 nor ZA940 anticipate any of the pending claims. Therefore, Applicants respectfully request withdrawal of the anticipatory rejections.

Rejections under 35 U.S.C. §103

Claims 12-21 stand rejected under 35 U.S.C. §103(a) as being obvious over JP 59-098008 (as evidenced by JP008) in view of ZA940, U.S. Patent No. 6,566,392 to Okada et al. (hereinafter “Okada”) and The Merck Index. Applicants respectfully traverse this rejection.

To establish a *prima facie* case of obviousness the cited references must teach or suggest each and every claim element. Furthermore, the teaching or suggestion must be found in the prior art, not in Applicants’ disclosure. Applicants submit that the Office has not proven a *prima facie* case of obviousness because all of the cited references, alone or in any combination, do not teach or suggest (1) impregnation of any kind, much less impregnation of a volatile acid precursor in a porous carrier as recited in independent claim 17 or (2) disposing a volatile acid precursor and a carbon dioxide precursor in a gas permeable sachet as recited in independent claim 18.

JP008 is directed to providing a small amount of carbon dioxide by “processing a powder mixture consisting or a carbonate or bicarbonate and a deliquescent acidic salt with water in air.” JP008 teaches that the deliquescent acidic salt is a hygroscopic salt, such as calcium chloride dihydrate. The composition is processed with water in the air or by the providing water droplets at a slow rate so that carbon dioxide gas is slowly evolved over a long period of time. Further, JP008 teaches placing the “mixed powder in a wet state … in an insect catching box whose inner side is coated with an adhesive” so that as carbon dioxide is evolved, mosquitoes are attracted and killed. However, JP008 is silent regarding (1) impregnating a volatile acid precursor in a porous carrier and (2) disposing a volatile acid precursor and a carbon dioxide precursor in a gas permeable sachet. Due to JP008’s silence regarding impregnation and the utilization of a gas permeable sachet, JP008 necessarily fails to provide any motivation or suggestion to modify the dry mixture compositions by impregnating a volatile acid precursor in a porous carrier or to utilize a gas permeable sachet, much less a sachet containing a volatile acid precursor and a carbon dioxide precursor.

ZA940 is directed to composition comprising a dry mixture of an inorganic carbonate or bicarbonate and an acid. In the presence of water, the composition reacts to form carbon dioxide. ZA940 teaches that these compositions may optionally include a pesticidally active

compound. Further, the composition is useful for “attracting hard and soft ticks and insects such as mosquitoes and tsetse flies.” Similar to JP008, ZA940 is silent regarding (1) impregnating a volatile acid precursor in a porous carrier and (2) disposing a volatile acid precursor and a carbon dioxide precursor in a gas permeable sachet. ZA940’s complete silence regarding impregnation and gas permeable sachets is evidence that the necessary motivation or suggestion to modify the dry mixture compositions by impregnating a volatile acid precursor in a porous carrier or to utilize a gas permeable sachet, much less a sachet containing a volatile acid precursor and a carbon dioxide precursor is lacking.

Okada is concerned with providing a portable solid formulation for preparing aqueous baits containing the insecticidal compound known as dinotefuran, since the effectiveness of solid baits having this insecticide are lacking and the weight of the aqueous bait compositions renders the distribution cost for transportation and storage undesirable. See column 1, lines 16-24. The solid formulation of Okada is dissolved in water to form an aqueous bait composition for application in places where flies inhabit. See column 1, lines 40-44.

The solid formulation of Okada includes dinotefuran, a carbonate (e.g. sodium carbonate), a solid acid selected from citric acid and malic acid, and a fly feed or attractant such as fructose. See column 1, lines 33-39. Okada’s “powdery solid formulation” is obtained by “mixing and pulverizing dinotefuran, the above-mentioned carbonate, the above-mentioned solid acid and the feed and/or attractant.” See column 2, lines 25-29. Further, Okada teaches that the “tablets or granules of the solid formulation ...can be obtained by further granulation with [a] tablet machine or bricketting machine.” See column 2, lines 30-33. These solid formulations can be easily dissolved to produce aqueous bait at the application site. Similar to both JP008 and ZA940, Okada is also silent regarding (1) impregnating a volatile acid precursor in a porous carrier and (2) disposing a volatile acid precursor and a carbon dioxide precursor in a gas permeable sachet. Due to the silence regarding impregnation and the utilization of a gas permeable sachet, Okada also necessarily fails to provide any motivation or suggestion to modify the dry mixture compositions by impregnating a volatile acid precursor in a porous carrier or to utilize a gas permeable sachet, much less a sachet containing a volatile acid precursor and a carbon dioxide precursor.

The Office cites "The Merck Index" for support that ferric chloride hexahydrate is a known hygroscopic substance.

The Office summarily concludes that despite JP008's failure to teach or suggest a volatile acid precursor impregnated in a porous carrier, the skilled artisan would have been motivated to mitigate potential storage and caking problems by specifically impregnating volatile acid precursors in a carrier. However, the Office does not provide any support for why the skilled artisan would be motivated to modify the powder composition of JP008 by specifically incorporating a porous carrier and then impregnating the porous carrier with a volatile acid precursor as currently claimed. Applicants respectfully submit that such an unsupported assertion is clear use of impermissible hindsight.

Applicants respectfully submit that in an attempt to arrive at the present invention, the Examiner is proposing a problem to be solved that is not evident or suggested by the art. JP008 in no way discloses or suggests that caking or clumping is a problem afflicting its disclosed composition. Perhaps the mixed powder of JP008 inherently avoids caking or clumping. For that matter, JP008 does not even disclose or suggest that caking or clumping is undesirable with its composition. JP008 teaches gas evolution for a long period. Perhaps formation of cakes or clumps prolongs gas evolution according to JP008. Applicants cannot opine on whether JP008 inherently avoids caking or clumping or whether cakes or clumps are actually preferred according to JP008 because the text relied upon by the Examiner simply does not disclose this information. Likewise, JP008 does not disclose or suggest anything indicating steps should be taken to overcome caking or clumping. Moreover, the Examiner has provided no evidence to support the argument that a skilled person reading JP008 would, based solely upon the hygroscopic nature of some acidic salts, decide to modify JP008 by specifically impregnating the acidic salt in a porous carrier. Thus, Applicants respectfully submit this line of reasoning is unsupported.

The Office further argues that Okada teaches incorporating insecticides and a carbonate plus acid CO₂ generating system into granules or tablets and that this suggests impregnation in a carrier. However, as discussed above, Okada is silent regarding impregnation of any substance in a carrier, much less volatile acid precursors in a porous carrier. Okada only teaches the

superficial mixing of powdery components and then pressing the components to form a single tablet. See the Examples. Such “tableting” teachings do not equate to impregnation within a porous carrier. Specifically, Okada does not teach impregnating any component into a porous carrier or even another component. Considering Okada’s silence, one skilled in the art would not be motivated by Okada to impregnate any substance in a porous carrier, much less a volatile acid precursor.

Furthermore, Applicants respectfully submit that knowledge of the present invention is perhaps prompting the Examiner to read into Okada more than is fairly suggested by the reference. Okada is clearly directed to aqueous formulations that are useful for baiting and controlling flies. Column 1 (lines 12-24) of Okada teaches that solid baits are typically ineffective and liquid formulations are too bulky. Okada solves the problem by providing a solid form that is portable and can be converted to an aqueous formulation, at the point of use, by simply dissolving the tablet in water. Column 4 (lines 55-59) of Okada clearly states that it “provides a solid formulation for preparing aqueous bait formulation for flies which is light and easy-handling in view of possibility of quickly dissolving it at the application place.”

The Examiner interprets Okada as “incorporating” its components into a tablet. Accordingly, the Examiner appears to suggest the tablet of Okada is a stand-alone component into which the remaining components are simply incorporated. This is not the case. As pointed out above, the tablet of Okada is merely a compacted form of the powdered components, and such form in no way teaches or suggests impregnation. Thus, Applicants submit Okada does not teach “incorporation” of its components into a carrier. Rather, Okada simply teaches pressing its powder into a tablet or granule shape.

In fact, Applicants respectfully disagree with the Examiner’s allegation that granules or tablets are “fairly suggestive of impregnation in a carrier.” Applicants submit that the opposite is in fact true. Granules and tablets are specific delivery types recognized in the art for their ease of manufacture and relative ease of use. Forming granules and tablets simply comprises mixing the components and compressing. Granules can alternately be formed by preparing the mixture in a solid form and then milling to break apart into granules. Such forms are often used because of

their ease of use, such as being quickly and easily dissolvable. This is clearly the intent in Okada, as the tablets are expressly and unquestionably designed for later dissolution in water.

Impregnation is a completely different technology than forming granules or tablets. Impregnation requires different mixing and forming steps, not to mention addition of the components to a carrier component in a manner effective to cause the components to become impregnated in the carrier. Moreover, Applicants respectfully submit that a skilled artisan viewing Okada would recognize the inherent distinctions between forming tablets and impregnating a carrier and would not be motivated by Okada to use impregnation.

In particular, as pointed out above, Okada clearly intends for its tablets to be later dissolved. Many porous carriers are not readily water soluble. Thus, Okada actually teaches away from the use of carriers since its tablets are to be used for forming aqueous compositions that are sprayable or otherwise applied to surfaces. The presence of non-dissolvable components would not be desirable according to Okada. In light of these many distinguishing factors, Applicants respectfully submit that the tablets of Okada in no way suggest impregnation in a porous carrier.

Since the cited references, individually or in any combination, do not teach or suggest impregnating a volatile acid precursor in a porous carrier and there is no motivation to modify the references in the manner suggested by the Office, the Office has not established a *prima facie* case of obviousness. Therefore, Applicants respectfully submit that independent claim 17 and all claims dependent thereon are not obvious over the cited references and/or the knowledge generally available in the art.

The Office also acknowledges that JP008 does not disclose a gas permeable sachet containing a volatile acid precursor and a carbon dioxide precursor. Without pointing to any particular teaching, either in the cited references or to knowledge generally available in the art, the Office concludes that "such feature is fairly suggested by convenience of application and uniform dosing." Applicant respectfully submits that this unsupported assertion is clear use of impermissible hindsight.

JP008 teaches using its formulation in a powder form that is mixed with water and optionally placed in an insect catching box. This in no way suggests the use of a sachet or any

other bag-type device for containing the powder. In fact, it is not clear whether the powder of JP008 would even be amenable for use in a sachet or would be too susceptible to dusting.

As pointed out above, Okada teaches a tablet that is dissolved in water to provide the end product (i.e., an aqueous formulation). A skilled person would clearly see that the tablet of Okada is not intended for stand-alone use but is merely a convenient storage form for later dissolution. Thus, there would be no reason to place the tablet of Okada in a sachet or any other carrier that would not be later dissolvable.

As discussed above, all of the cited references are silent regarding the utilization of a gas permeable sachet, much less a gas permeable sachet containing a volatile acid precursor and a carbon dioxide precursor as currently recited in independent claim 18. Applicant respectfully submit that due to the absence of such teaching or suggestion in the cited references and/or knowledge generally available in the art, independent claim 18 and all claims dependent thereon are not obvious.

Applicants respectfully request withdrawal of the obviousness rejections.

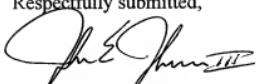
Conclusion

In light of the current claim amendments and the foregoing remarks, Applicants respectfully submit that all pending claims are now in condition for immediate allowance. It is requested that the Examiner telephone the undersigned should the Examiner have any comments or suggestions in order to expedite examination of this case.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

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